

L 28970-66

ACC NR: AP6019136

power consumption remained almost unchanged upon decreasing the interelectrode distance from 8-9 to 4-5 cm, but the current at the electrolyzer cell in the second case was increased by 20% because of the additional current feed from the auxiliary generator and disconnection of one cell. The losses of chlorine with the gases of the cathode suction and its concentration in the anode gas remained unchanged. The amount of slime also remained unchanged.

Relationship of current yield and slime content to the $MgCl_2$ concentration in the electrolyte was conducted on the pilot plant electrolyzer of VAMI at 2000 amps.

Granulated $MgCl_2$ from titanium production containing (in %): 0.5-1.5 H_2O , 0.4-0.7 MgO was the raw material. $MgCl_2$ was loaded into the electrolyzer continuously with the aid of a trough feeder. The variation in concentration in a single period did not exceed 1%, and the electrolyte level was kept strictly constant.

If one takes, as 100%, the amount of slime when the concentration of $MgCl_2$ is 6%, then when the content of $MgCl_2$ in the electrolyte is 9, 13 and 16%, this value is 118, 154, and 195% respectively. Increased $MgCl_2$ concentrations in the electrolyte from 6-9 to 13% led to the increase of current yield from 86 to 90%.

It is evident that to obtain a high and stable current yield the $MgCl_2$ concentration in the electrolyte of industrial electrolyzers should not be below 8-10% (the upper limit -- not over 18-20%)

It is interesting to note that the $MgCl_2$ content change in the range of 6-16% in the electrolyte did not at all affect the value of the average

Card 3/6

L 28970-66

ACC NR: AP6019136

voltage of the electrolyzer.

The cause of this, evidently, is the fact that the reverse emf measured by the instantaneous cut-out of a cell was 2.92 V at 6% $MgCl_2$ and 2.28 V at 16% $MgCl_2$.

Relationship of the current yield and slime content to the duration of intervals between recoveries of slime at the VAMI pilot plant electrolyzer showed that the duration of interval between extraction of the slime was increased to 142 days; thereupon the amount of slime amounted to 0.01 kg/kg Mg in all.

In 1961, in an experimental industrial electrolyzer, the time of the intervals between slime removal was set at 40-50 days; the current yield was 85-87%. In 1963 this task was studied more in detail at two experimental industrial electrolyzers.

From the data obtained it follows that when feeding $MgCl_2$ from titanium production to electrolyzers the slime content depends not so much on the amount of raw material, composition of the electrolyte and design of the electrolyzer as on the conditions for slime recovery.

Testing of an electrolyzer with a graphite hearth with $MgCl_2$ feed from the titanium production was conducted on pilot plant scale for 4 months.

The total current at the electrolyzer was 2000 amps; the current shunted to the hearth -- 100-200 amps ($D = 0.03-0.06$ amps/cm²).

With a disconnected hearth, the current yield and slime formation were the same as in the pilot plant electrolyzer with an ordinary hearth.

During anode polarization of the graphite hearth, the slime completely

Card 4/6

L 28970-66

ACC NR: AP6019136

disappeared in 2-3 days; during operation with a connected hearth no slime was formed.

However, both in the first and also in the second case the current yield was reduced from 88-91 to 80-85%, i.e., by 5-8%. This can be explained by the chlorination of impurities and their harmful effect on the process. Research in this area will be continued. Of much interest in removing the harmful effect of impurities is the use of chlorine-discharging anodes with which all or part of the chlorine is carried off through the body of the anode. Such experiments are being conducted at the present time.

With the further mastery of the sodium-potassium electrolyte, increase of NaCl in it, and the introduction into industry of the operating regimes at small distances (4-5 mm) between electrodes, these indicators in the opinion of the authors, can amount to 88-90% and 50.4-52.2 megajoules/kg of Mg (14.0-14.5 kilowatt-hours/kg of Mg) respectively, when the current is 20-30% higher than at the present.

The tests on experimental industrial electrolyzers, as well as the physical and chemical properties of the sodium-potassium electrolyte which are favorable to the electrolytic process and the high quality of $MgCl_2$ from the production of titanium, can serve to confirm this.

The selection of the actual ratio of NaCl:KCl in the electrolyte depends on the technical scheme of the plant and level of mechanization of slime recovery processes. As the calculation of economic effectiveness indicates, the use of the sodium-potassium electrolyte in place of the sodium-calcium one permits a reduction of approximately 5% in the cost of magnesium.

Card 5/6

L 28970-66

ACC NR: AP6019136

0

Additionally, the use of this electrolyte permits the mechanization of the slime recovery with the aid of a vacuum. With sodium-calcium or sodium-barium electrolytes this means of slime recovery is hardly applicable because of the large losses of CaCl_2 or BaCl_2 . The sodium-potassium electrolyte should be recommended for use, in turn, for high quality MgCl_2 . However, in the future this electrolyte composition may be quite practical for all forms of MgCl_2 .

Orig. art. has: 5 tables. [JPRS]

SUB CODE: 13, 07 / SUBM DATE: none / ORIG REF: 006

Card 6/6 - BLG

MUZHZHAVLEV, K.D.; LEBEDEV, O.A.; FRANTAS'YEV, N.A.; OLYUNIN, G.V.;
SHEKA, T.S.; DOIGIKH, T.K.; Prinimali uchastiye: POPOV, V.V.;
SHEKA, V.P.

Results of testing individual design elements of magnesium
electrolytic cells. TSvet. met. 38 no.5:57-60 My '65. (MIRA 18:6)

EXHIBIT, Vol. 1, "MIRAGE, L.A.; SWANSON, G.H.

EXHIBIT, Vol. 1, "MIRAGE, L.A.; SWANSON, G.H.

From letter to G. H. Swanston, dated 10/10/61, re: three-layer
printing of page 10 of "MIRAGE" and page 11 of "MIRAGE". (MIRA 13:2)
10/10/61-10/10/61.

ACC NR: AP7005632

SOURCE CODE: UR/0413/67/000/002/0088/0088

INVENTOR: Baymakov, Yu. V.; Lebedev, O. A.; Tatakin, A. N.; Nechayev, V. M.;
Khristyuk, G. P.

ORG: None

TITLE: A method for complex reprocessing of magnesium alloy scrap and waste. Class
40, No. 190573 [announced by the Solikamsk Magnesium Plant (Solikamskiy magniyevyy
zavod)]

SOURCE: Izobreteniya, promyshlennyye obfazy, tovarnyye znaki, no. 2, 1967, 88

TOPIC TAGS: magnesium alloy, electrolytic refining

ABSTRACT: This Author's Certificate introduces: 1. A method for complex reprocessing
of magnesium alloy scrap and waste. The procedure involves sorting, remelting to
standard alloys, remelting in salt baths, electrolytic refining and vacuum sublimation.
The quality of the resultant magnesium alloys is improved by using a part of the
secondary metal obtained from the salt baths for the charge in smelting standard mag-
nesium alloys and subjecting a part of this secondary metal to electrolytic refining
by the three-layer method with subsequent extraction. The anode metal is subjected to
vacuum sublimation. 2. A modification of this method in which the vacuum sublimation
residue is used as an aluminum-copper base for making aluminum alloys while the conden-
sate (magnesium-zinc) is used for making an anode alloy.

SUB CODE: 11/ SUBM DATE: 03Jul64

Card 1/1

UDC: 669.721.472-982:621.74.02

LEBEDEV, O.A.

Checking the calculation of casing column wear by method introduced by the Azerbaijan Scientific Research Institute of Oil Machinery. Trudy KF VNII no.5:185-192 '61. (MIRA 14:10)
(Oil well casing) (Mechanical wear)

TUZINSKIY, A.G., gornyy inzhener; LEBEDEV, O.A., gornyy inzhener

Mechanization and automatization of coal mining. Ugol' 35 no.5:5-9
My '60. (MIRA 13:7)

1. Kombinat Rostovugol'.
(Donets Basin--Coal mines and mining)
(Automatic control)

FRANTAS'YEV, Nikolay Anatol'yevich; MUZHZHAYEV, Konstantin
Dmitriyevich; LEBEDEV, Gleg Andreyevich

[Operation of rotary kilns, chlorinators and continuous
action, stationary car-burner furnaces] Obsluzhivanie vra-
shchayushchikhsia pechei, khloratorov i pechei SKN. Moskva,
Metallurgiya, 1965. 60 p. (MIRA 18:8)

(N) L 10427-66 EWT(m)/EPF(n)-2/T
AM5028041 BOOK EXPLOITATION

UR/

Lakhanin, Vladimir Vladimirovich; Zakharov, Yuliy Vasil'yevich; Lebedev, Oleg
Nikolayevich 55

Use of atomic energy in water transportation (Ispol'zovaniye atomnoy energii na
vodnom transporte) Moscow, Izd-vo "Transport", 1965. 0187 p. illus.,
biblio. Errata slip inserted. 1,500 copies printed.

TOPIC TAGS: nuclear physics, nuclear reactor, marine engineering, nuclear sub-
marine, icebreaker ship, radiation detecting device, radioactivity, radio-
isotope, radiation, protection, radiation dosimetry, transportation equipment

PURPOSE AND COVERAGE: This book is a manual on the subject of "use of atomic
energy in the national economy" for students in water transportation institutes.
A short survey is given on the structure of matter, nuclear reactions and radio-
active radiations. Also covered are the uses of atomic energy in water trans-
portation, such as the use of atomic energy for propelling ships, radioactive
isotopes in construction and in hydrotechnical equipment, ship repair, ship
thermal engineering and work at sea floor level. This book is useful as a
survey for technical engineers interested in the possible uses of atomic energy.

UDC: 656.6:621.039:(075.8)

Card 1/2

L 10427-66
AM5028041

TABLE OF CONTENTS: (abridged):

Foreword — 3

Ch. I. Structure of matter, nuclear reactions and nuclear energy — 5

Ch. II. Nuclear reactors and atomic power plants for ships — 22

Ch. III. Atomic ships — 49

Ch. IV. Measuring radioactive radiation — 90

Ch. V. Using radioactive isotopes and radiation in water transportation — 113

Ch. VI. Protection from radioactive radiation and dosimetry — 165

Bibliography — 185

SUB CODE: NP, GO

NO REF SOV: 035

SUBMITTED: 13Mar65

OTHER: 000

CC
Card 2/2

Handwritten: KORENMAN, I.M.; LEBEDEV, O.L.

Coprecipitation of cesium with tetramethylammonium dipicrylamine.

Soob.o nauch.rab.chl.VKHO no.2:42-45 '55. (MIRA 10:10)

(Precipitation (Chemistry)) (Cesium) (Amines)

Lebedev O.I.

USSR/Analysis of Organic Substances.

G-3

Abs Jour : Referat Zhur - Khimiya, No 6, 1957, 19739

Author : S.N. Kazarnovskiy, O.I. Lebedev.

Inst : Gorki Polytechnical Institute

Title : Quantitative Determination of Melamine and Cyanuric Acid.

Orig Pub : Tr. Gor'dovsk. politekhn. in-ta, 1955, 11, No 3, 52-55.

Abstract : A sample of about 0.1 g of melamine (I) is dissolved while heated in 100 ml of water, cooled and the insoluble substances are filtered off. The solution is heated nearly to the boiling point, 100 ml of the reagent (1.5 g of cyanuric acid (II) in 1 liter of water) are added, and all is cooled; the precipitate is filtered off with a glass filter No 3, or 4, washed with a diluted solution (25 ml) of II (0.3 g of II per 1 liter water), dried at 105 to 110°, and the I content (in %) is computed in mixtures with predominant I according to the equation:

$$x = \frac{A}{A + 0.0045A} \times 0.4942 \times 100$$
: H, where A is the

Card 1/2

- 26 -

AUTHORS: Lebedev, O. L., Redoshkin, A. M. SOV/32-24-10-63/70

TITLE: An Apparatus for the Continuous Addition of a Liquid Under Pressure (Prisposobleniye dlya nepreryvnoy podachi zhidkosti pod davleniyem)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol 24, Nr 10, pp 1291-1291 (USSR)

ABSTRACT: An apparatus was constructed which is used in dosing 40% caustic soda solution into an atmosphere of carbon monoxide and steam at 50 atmospheres absolute pressure and 2000°. The liquid to be added to the container with compressed gas is in a tank equipped with an electromagnetic valve and connected to the gas container. In a pipe (of non-magnetic steel ~~EL~~ -183) there is a steel ball. Below the steel ball there is a steel rod which rises or falls together with the ball by the action of the electromagnet, thus closing or opening the inlet of the liquid to the gas container. In case the liquid reacts with the gas a sealing container with inert gas must be inserted into the pressure-balancing pipe. At a dosing rate of 10 ml/minute the amount of the liquid addition deviates by maximally 0,5 ml/minute, i. e. $\pm 5\%$. A diagram of the apparatus is given. There is 1 figure.

Card 1/2

SOV/32-24-10-63/70

An Apparatus for the Continuous Addition of a Liquid Under Pressure

ASSOCIATION: Gor'kovskiy politekhnicheskii institut im. A. A. Zhdanova
(Gor'kiy Polytechnical Institute imeni A. A. Zhdanov)

Card 2/2

5(4)

AUTHORS:

SOV/79-29-8-16/81
Lebedev, O. L., Antipina, I. V., Kazarnovskiy, S. N.,
Lebedeva, V. V.

TITLE:

Catalytic Oxidation of Cyclohexylamine by Means of Hydrogen Peroxide Into the Oxime of Cyclohexanone

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 8, pp 2534-2536
(USSR)

ABSTRACT:

In the synthesis of the oxime of cyclohexanone which is used in the manufacture of caprone, the oxidation of cyclohexylamine with hydrogen peroxide in the presence of catalysts can be applied. Cyclohexylamine is easily obtained by hydrogenation of aniline. The purpose of the present paper was the oxidation of cyclohexylamine to form the oxime of cyclohexanone by means of hydrogen peroxide. The following reagents were used: 98% cyclohexylamine with a boiling point of 133°, obtained by hydrogenation of aniline; 30% hydrogen peroxide dissolved in water; ammonium tungstate and ammonium molybdate. The oxime formed in the reaction was determined colorimetrically (Ref 9). In the oxidation of cyclohexylamine, a number of catalysts were used which combine with H_2O_2 : the salts of the uranic, vanadic,

Card 1/3

SOV/79-29-8-16/81

Catalytic Oxidation of Cyclohexylamine by Means of Hydrogen Peroxide Into the Oxime of Cyclohexanone

molybdic and tungstic acid. The first two are not active. Figure 1 presents the results of the oxidation of cyclohexylamine in the presence of the molybdates and tungstates. The ammonium tungstate shows the highest activity in the presence of trilon B. By a catalyst deficiency with respect to H_2O_2 the oxime formation is reduced, on excess catalyst it does not increase. Thus the reaction of the catalyst with H_2O_2 plays an important part in the oxidation. In the process of oxidation the grouping E-OOH (or EOO^-) is the oxidizing agent, in which E represents one of the atoms C, S, W, Mo. Pertungstate seems to be most suitable for the above-mentioned synthesis. The influence exerted by the concentration of trilon B upon the yield of the oxime is shown in figure 2. The experiments showed that trilon B acts as a stabilizer of H_2O_2 in which it suppresses the side reaction, i.e. its decomposition. With an increasing quantity of H_2O_2 , also the yield of the oxime increases up to 58%, but only in the presence of tungstate. On addition of trilon B,

Card 2/3

SOV/79-29-8-16/81

Catalytic Oxidation of Cyclohexylamine by Means of Hydrogen Peroxide Into the Oxime of Cyclohexanone

the yield increases up to 80% in which case only half of the hydrogen peroxide is needed (Fig 3). There are 3 figures and 13 references, 9 of which are Soviet.

ASSOCIATION: Gor'kovskiy politekhnicheskii institut (Gor'kiy Polytechnic Institute)

SUBMITTED: February 20, 1958

Card 3/3

KAZARNOVSKIY, S.N., LEBEDEV, O.I.

Continuous method of production of sodium formate
from a solution of sodium hydroxide and carbon monoxide.
Khim.prom. 2:114-115 My '60. (MIRA 13:7)
(Sodium formate) (Sodium hydroxide) (Carbon monoxide)

S/079/60/030/05/48/074
B005/B016

5.3200

AUTHORS: Lebedev, O. L., Kazarnovskiy, S. N.TITLE: Catalytic Oxidation of Aliphatic Amines With Hydrogen Peroxide

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 5, pp. 1631-1635

TEXT: The authors of the present paper investigated the rules governing the catalytic oxidation of aliphatic amines with hydrogen peroxide in the presence of sodium pertungstate. In dilute aqueous solution this oxidation is a second-order reaction the rate of which is directly proportional to the product of concentrations of amine and sodium pertungstate. The kinetic equation of the oxidation reaction is given. Table 1 shows the influence exercised by a change of concentrations of sodium pertungstate, amine and hydrogen peroxide upon the rate of oxidation of some amines. Fig. 2 shows the interrelation between the rate constant of oxidation and the number of hydrogen atoms bound to the amine nitrogen. The rate of oxidation of all aliphatic amines (including ammonia) is determined by two factors: the affinity of the nitrogen atom

Card 1/3

Catalytic Oxidation of Aliphatic Amines
With Hydrogen Peroxide

S/079/60/030/05/48/074
B005/B016

to the oxygen atom of the peroxide, and steric hindrances of the access of the oxidizing agent to the nitrogen atom. The former of these factors is determined by the number of hydrogen atoms linked to nitrogen. The more hydrogen is bound, the more slowly proceeds the oxidation. Tertiary amines are, therefore, oxidized most quickly, ammonia most slowly. On oxidation of tertiary amines, however, steric hindrances occur which play a role especially in spatially large or highly-branched substituents. In the above-mentioned oxidation of aliphatic amines, compounds are formed which contain one oxygen atom bound to nitrogen: amine oxides, hydroxylamines, and oximes. Ammonium ions which possess no free electron pair are not oxidized. It may be concluded from the fact that different substances such as $N(CH_3)_3$, NH_3 , and NO_2^- , the only common property of which is a free electron pair, are oxidized by hydrogen peroxide in the presence of sodium pertungstate, that the oxidation takes place on this free electron pair. In this connection, primarily an addition product of the type of an amine oxide is formed. In the case of ammonia and of primary and secondary amines, isomerization of this amine oxide occurs, and the corresponding hydroxylamine is formed (Ref. 6). The authors investigated the influence of some functional groups in the amine molecule

Card 2/3

Catalytic Oxidation of Aliphatic Amines
With Hydrogen Peroxide

S/079/60/030/05/48/074
B005/B016

upon the rate of oxidation. Carbonyl- and carbimide groups which are directly bound to the amino group suppress the oxidation almost completely. Amino acids are oxidized only if the carboxyl group is bound by lye. A hydroxyl- or amino group in β -position to the amino group increases the rate of oxidation. In an experimental part, the procedure of the investigations is described. Table 2 gives the rate constants of the oxidation with hydrogen peroxide for a number of amines. 31 amines were oxidized in aqueous solution in the presence of sodium pertungstate, 9 amines in aqueous-alcoholic solution in the presence of sodium pertungstate, 5 amines in aqueous solution in the presence of sodium permolybdate, 5 amines in aqueous solution without a catalyst, and 2 amines in aqueous-alcoholic solution without a catalyst. There are 3 figures, 2 tables, and 7 references, 4 of which are Soviet.

ASSOCIATION: Gor'kovskiy politekhnicheskii institut (Gor'kiy Polytechnic Institute)

SUBMITTED: February 3, 1959

Card 3/3

S/079/60/030/009/013/015
B001/B064

AUTHORS: Lebedev, O. L., Kazarnovskiy, S. N.
TITLE: Oxidation of the Amines With Pertungstate

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 9,
pp. 3105-3107

TEXT: In a previous paper (Ref. 1), the authors have shown that the reaction rate constant in the oxidation of amines with pertungstate is determined by the number of the hydrogen atoms on nitrogen, as well as by the number and ramification character of the substituents. In the present paper they try to give a clearer picture of the results concerned. Two factors play a role in this connection: the spatial factor and the effect of the number of hydrogen atoms on nitrogen. The activation energy of oxidation of the primary amines with pertungstate equals 12-14 kcal/mole and does not depend in first approximation on the ramification of the amines (Table 1). At the same time, the reaction rate constant decreases considerably in the series of the substituents (Ref. 1):
 $\text{CH}_3 > \text{CH}_2\text{CH}_3 > \text{CH}(\text{CH}_3)_2 > \text{C}(\text{CH}_3)_3$. The length of the chain of the

Card 1/2

Oxidation of the Amines With Pertungstate

S/079/60/030/009/013/015
B001/B064

substituent has almost no effect upon the reaction rate, e.g., in ethyl-, n-propyl, n-butylamine or diethyl- and di-n-propylamine (Ref. 1). The heterocyclic amines (piperidine, hexamethylene imine, morpholine) that oxidize far more rapidly than the corresponding aliphatic di-n-propyl amine (Table 2) form an exception. The authors summarize their results as follows: the space effect of the substituents in the oxidation of amines with pertungstate is determined by the orientation of the unseparated pair of electrons and the α -group of atoms of the substituent. The alkyl group that is added on the α -carbon atom and oriented in the same direction with the unseparated pair of electrons, retards the reaction considerably. The intensification of the activity of the compounds of trivalent nitrogen, in the substitution of the hydrogen atoms of the N-H bond by larger groups, is obviously due to the loosening of the unseparated pair of electrons, i.e., to the increase in volume in which it may occur. It was noted that the total electron density around the nitrogen atom has no effect upon the rate of oxidation of the nitrogen compounds. (Table 3). There are 3 tables and 8 references: 3 Soviet and 5 US.

ASSOCIATION: Gor'kovskiy politekhnicheskii institut
(Gor'kiy Polytechnic Institute)

SUBMITTED: October 9, 1959
Card 2/2

LEBEDEV, O. L.

Cand Chem Sci - (diss) "Oxidation of ammonia and of aliphatic amines by pertungstate." Gor'kiy, 1961. 10 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Gor'kiy State Univ imeni N. I. Lobachevskiy); 150 copies; price not given; (KL, 5-61 sup, 176)

LEBEDEV, O.L.; KHIKEL', M.L.; RAZUVAYEV, G.A.

Isotopic analysis of nitrogen by the method of electron paramagnetic resonance. Dokl. AN SSSR 140 no.6:1327-1329 0 '61.

(MIRA 14:11)

1. Nauchno-issledovatel'skiy institut khimii pri Gor'kovskom gosudarstvennom universitete im. N.I.Lobachevskogo i Gor'kovskiy politekhnicheskoy institut im. A.A.Zhdanova. 2. Chlen-korrespondent AN SSSR (for Razuvayev).

(Nitrogen--Isotopes) (Paramagnetic resonance and relaxation)

L 65226-65 EWA(k)/FBD/EWT(1)/EWP(e)/EWT(m)/EEC(k)-2/EWP(1)/T/EWP(k)/EWP(b)/
EWA(m)-2/EWA(h) IJP(c) WG/WH
ACCESSION NR: AP5014195

UR/0386/65/001/002/0014/0017

AUTHOR: Lebedev, O. L.; Gavrilov, V. N.; Gryaznov, Yu. M.; Chastov, A. A.

TITLE: Obtaining giant pulses from a neodymium glass laser with help of bleach-
able solutions

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu.
Prilozheniye, v. 1, no. 2, 1965, 14-17

TOPIC TAGS: laser, neodymium glass laser, liquid Q switch, photochemical shutter,
giant pulse

ABSTRACT: Emission characteristics obtained from a Q-switched neodymium glass
laser were described. The Q-switching was achieved with the help of a reversibly
bleachable liquid which was a solution of a polymethine dye in quinoline. The
experimental setup was described, which consisted of a neodymium activated glass
rod and a cell with a dye solution placed in the optical cavity between the laser
rod and one of the external dielectric mirrors. A few short and powerful pulses
were generated by this system. Duration of each pulse and number of pulses were
found to decrease to 100 nsec and one, respectively, when transmittance of the
solution was gradually decreased to 36%. Orig. art. has: 2 figures. [JR]

Card 1/2

L 65226-65

ACCESSION NR: AP5014195

ASSOCIATION: none

SUBMITTED: 01Mar65

NO REF SOV: 001

ENCL: 00

SUB CODE: EC

OTHER: 005

Card

file
2/2

APPROXIMATION NR: AP500644

Avnitskiy, Kh. A.; Lebedev, O. L.; Michurin, A. V.

Luminescence of some europium complexes with fluorinated α -diketones in a polyacrylate matrix

Optika i spektroskopiya, v. 18, no. 3, 1965, 532-533

INDEXING: rare earth chelate, europium chelate, fluorinated diketone complex, polyacrylate matrix, luminescence spectrum, luminescence quantum yield, oscillation threshold

SUMMARY: Luminescence spectra, lifetime, and quantum yield of luminescence of two europium chelates have been studied in connection with the related emission recently observed in europium benzoylacetonate. Europium thenoyltrifluoroacetate and europium (2-thenoyl)-3,3,3-trifluoroacetate (EuTFA) and europium (2-benzoyl)-3,3,3-trifluoroacetate (EuBFA) were prepared both in polycrystalline state and dissolved in ethanol or in an organic matrix, either poly(methyl methacrylate) or methacrylate and methyl methacrylate copolymer. The absorption spectra of EuTFA extended over

Cont. 1/2

ACCESSION NR: AP5006449

...ultraviolet range and presented two large peaks. Luminescence spectra at 77K of both $\text{Eu}(\text{H}_2\text{O})_9^{3+}$ and $\text{Eu}(\text{Ph}_3\text{C})_3$ displayed electronic transitions from the $^5\text{D}_0$ and $^5\text{D}_1$ higher energy to lower energy levels. The effect of the environments studied on the resolution and position of the peaks was noted. The $^5\text{D}_0 \rightarrow ^7\text{F}_2$ transition was the most energetic (80% of the total emission). Relative intensity and half-width of spectral lines of the $^5\text{D}_0 \rightarrow ^7\text{F}_2$ transition in the solutions were redistributed in respect to those in the crystal. In europium chelates with substituted diketones, the quantum yield at 77K was about the same as in europium benzoylacetonate, and at room temperature it was higher in the latter; the lifetime of the $^5\text{D}_0$ level at 77K was longer in europium benzoylacetonate. The oscillation threshold calculated for a four-level system indicated the possibility of oscillation on the transition in Eu complexes with substituted diketones. Orig. contains 2 figures and 1 table.

ASSOCIATION: none

REMITTED: 04May64

SOVI: 003

ENCL: 00

OTHER: 007

SUB CODE: GP,OC

ATD PRESS: 3199

L 16166-66 EWT(m)/EWP(j)/T/EWP(t) LJP(c) JD/JW/JG/RH
ACC NR: AP6007011 SOURCE CODE: UR/0051/66/020/002/0340/0342

AUTHOR: Lebedev, O. L.; Michurina, A. V.

ORG: none

TITLE: Luminescence spectra of fluorinated and branched europium and terbium β -diketone complexes

SOURCE: Optika i spektroskopiya, v. 20, no. 2, 1966, 340-342

TOPIC TAGS: luminescence, europium compound, terbium compound, ketone, fluorinated organic compound, stimulated emission

ABSTRACT: In a search for compounds with stimulated emission capability, luminescence spectra at 77K were obtained of n-propyl alcohol solutions of 25 europium and terbium complexes with β -diketone of the type $R'COCH_2COR''$, where R' and R'' are various organic radicals, branched or unbranched and/or fluorine substituted. The effects of the symmetry of ligands (diketones), molecular structure of the radicals, accumulation of fluorine substituents, combinations of two branched radicals or branched and fluorine-substituted radicals were examined on the position, width, and intensity of luminescence peaks which correspond to

UDC: 535.37

Card 1/2

L 16166-66

ACC NR: AP6007011

$^5D_0 - ^7F_2$ and $^5D_4 - ^7F_5$ transitions in Eu and Tb ions. The solvent was selected as representative of the class of oxygen-containing solvents with similar spectra, which reflect the activity of the electron shells of oxygen atoms interacting with Eu or Tb ions. Impurities in such a solvent do not interfere with the shape of $^5D_0 - ^7F_2$ transition. The spectra of the europium α -pyridyltrifluorodiketone complex displayed a narrow red band identical in solution and in crystals, presumably because of the formation of an N-containing chelate ring. The luminescence intensity of the terbium ion in terbium bis(1,3,5-trimethylbenzoyl)methide [sic] remained high in spite of the presence of the branched radicals in the ligand, which generally quench luminescence of the lanthanide ion and simultaneously promote blue-green emission due to the molecule itself. Certain [unspecified] of the complexes studied may be capable of producing stimulated emission. Orig. art. has 1 figure. [JK]

SUB CODE: 20/ SUBM DATE: 29Apr65/ ORIG REF: 004/ OTH REF: 003/ ATD PRESS: 4204

Card 2/2

ACCESSION NUMBER

ACCESSION NR: AP5006539

system. The comparatively low power of 21 MW is explained by the fact that the parameters of the solutions used were not optimum. Orig. art. has: 2 figures.

ASSOCIATION: none

RECEIVED: 12Dec64

ENCL: 00

SUB CODE: 05

REF ID: A66092

27477: 201

Card 2/2

VOYTINSKIY, Ye.Ya. (Leningrad); LEBEDEV, O.M. (Leningrad); LEVIN, M.V.
(Leningrad); MUNITS, I.N. (Leningrad)

Graphic method for the periodic analysis of the measurement and
evaluation of encephalograms. Vop.psikhol. 9 no.2:152-157 Mr-Apr
'63. (MIRA 16:4)

(Electroencephalography)

VOYTINSKII, Ye.Ya. (Leningrad); IZBULEV, O.M. (Leningrad)

Quantitative evaluation of the form of electroencephalogram
waves. Vop. psikhol. 11 no.6:160-162 1965.

(HRA 19:1)

LAKHANIN, V.V., doktor tekhnicheskikh nauk, professor; LESYUKOV, V.A.,
kandidat tekhnicheskikh nauk, dotsent; LEBEDEV, O.N., inzhener.

Fedor Aleksandrovich Briks. Vest.mash. 35 no.12:83-84 '55.

(MLRA 9:5)

(Briks, Fedor Aleksandrovich, 1855-1936)

ARTEMOV, N.M.; GORYACHEV, Yu.V.; LEBEDEV, O.N.; STEPANOV, A.S.

Effect of bee and cobra venom on the neuromuscular apparatus
in cat. Nauch. dokl. vys. shkoly; biol. nauki no. 3:54-61 '64
(MIRA 17:8)

1. Rekomendovana kafedroy fiziologii cheloveka i zhivotnykh
Gor'kovskogo gosudarstvennogo universiteta imeni Lobachev-
skogo.

LEBEDEV, O.N.

Studying heat exchange in small fuel bed furnaces and burnout
chambers. Trudy Transp.-energ.inst.Sib.otd. AN SSSR no.8:89-100
'59. (MIRA 15:5)

(Heat-Transmission)
(Furnaces)

KHOZE, A.N., kand.tekhn.nauk; LEBEDEV, O.N., inzh.

Choice of the best suited design for the gas-conducting system
in the KV-5 marine boiler. Rech.transp. 18 no.10:35-38 0
'59. (MIRA 13:2)

(Boilers, Marine)

LEBEDEV, O. N., Cand Tech Sci -- (diss) "Research into heat exchange in bedded boiler furnaces." Novosibirsk, 1960. 18 pp; 1 page of tables; (Ministry of Higher and Secondary Specialist Education USSR, Novosibirsk Construction Engineering Inst im V. V. Kuybyshev); 165 copies; price not given; (KL, 26-60, 136)

S/114/60/000/003/007/008
E073/E535

AUTHORS: Zakharov, Yu. V. and Lebedev, O.N., Engineers
TITLE: Simple Method of Measuring the Flow Rate of Gas
PERIODICAL: Energomashinostroyeniye, 1960, No.3, pp.41-43

TEXT: The tested method is based on measuring the quantity of gas flowing through the piping by means of an "integrating" tube. It represents a simple solution, with an adequate accuracy; the apparatus can be produced easily in a workshop. The main dimensions of the piping and of the "integrating" tubes, including the Pitot tubes, used during the tests are tabulated. A sketch of the arrangement is shown in Fig.1. Fig.2 shows the location of the Pitot and the integration tubes in the piping (1, 2, 3, 4 are the axes along which the speeds were measured). Piping with an internal diameter of 81 and 130 mm was placed during the tests on the suction side of the fan, whilst piping of 23 mm internal diameter was placed on the pressure side of the fan. The flow rate in the piping varied as follows: between 540 and 1880 m³/h for the piping of 130 mm dia., between 250 and 490 m³/h for the piping of 81 mm dia. and between 22 and 40 m³/h for the piping of 23 mm dia. The speed was

Card 1/7

S/114/60/000/003/007/008
E073/E535

Simple Method of Measuring the Flow Rate of Gas

measured by means of the Pitot tube on a diameter which is parallel to the metering tube and on four diameters in directions as shown in Fig.2. From these values the average speeds were calculated of all the measurements. The results obtained by using the proposed "integrating" tube and the Pitot tube and the respective differences between the two are given in a table. It can be seen that the difference fluctuates between ± 0.5 to 3%, which is sufficient for practical as well as for laboratory requirements. The suitability of the "integrating" tube was verified on air but can also be used for measuring the flow rate of various gases. In the case of slightly contaminated gases containing admixtures of oil vapours etc., it is necessary to blow through from time to time the inflow holes (1, Fig.1). The location of the metering tube is practically unaffected by the length of the straight inflow part of the piping. In a number of tests the ratio of this length to the diameter was varied between 15 and 48. The diameter of the metering tube should depend on the internal diameter of the piping so as to avoid an excessive disturbance in the flow; satisfactory

Card 2/7

S/114/60/000/003/007/008
E073/E535

Simple Method of Measuring the Flow Rate of Gas

results were obtained for the ratios d/D_{BH} of about 0.04 to 0.09. The diameter of the inflow holes in the metering tube equalled $d = 0.3d$; it is necessary to ensure full braking of the gas flow in these holes. The number of holes is selected in dependence of the diameter of the piping on the basis of literary data. The inflow holes must be accurately drilled along a generating line of the pipe and the pipe should be placed against the flow, and so that the outermost holes are located at an equal distance from the inside wall of the pipe. The latter part of the paper deals with a method of determining the airflow rate by measuring its moisture content. A certain quantity of indicator gas is injected and the resulting concentration after intermixing is measured. The author recommends using for this purpose steam and two variants are suggested. The air humidity and temperature before and after humidification are determined by means of psychometers 1 and 4, Fig.3. The steam is fed in from an evaporator 2 into the piping 5. A micropressure gauge 3 is fitted for determining the excess air pressure. Sufficiently accurate results are obtained

Card 3/7

S/114/60/000/003/007/008
E073/E535

Simple Method of Measuring the Flow Rate of Gas

by adding 1.5 to 2 g of moisture per 1 kg of air. One measurement takes about 5 to 10 min. In comparative measurements using this apparatus as well as throttling equipment it was found that the difference between the results obtained by the two methods did not exceed 3 to 4%. There are 3 figures and 3 tables.

Card 4/7

S/114/60/000/003/007/008
E073/E535

Simple Method of Measuring the Flow Rate of Gas

Fig.1

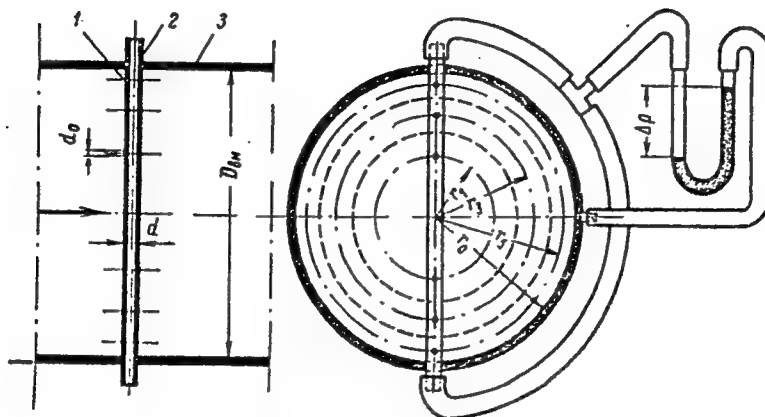


Рис. 1. Схема установки «интегрирующей» трубки в трубопроводе.

Card 5/7

S/114/60/000/003/007/008
E073/E535

Simple Method of Measuring the Flow Rate of Gas

Fig.2

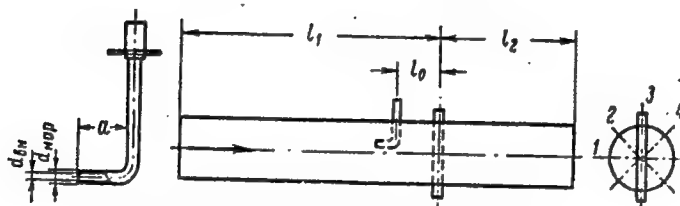


Рис. 2. Трубка Пито и ее установка в газопроводе:

Card 6/7

S/114/60/000/003/007/008
E073/E535

Simple Method of Measuring the Flow Rate of Gas

Fig.3

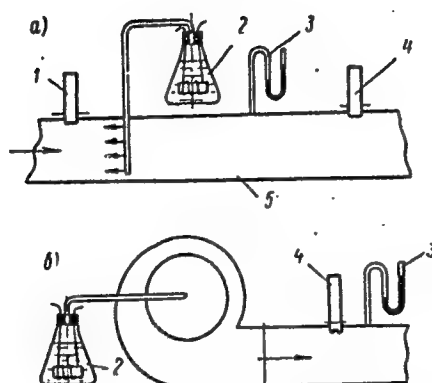


Рис. 3. Схемы измерений для определения расхода воздуха.

Card 7/7

KHOZE, A.N.; LEBEDEV, O.N.

Study of mutual relationship between aerodynamic and convective heat exchange in the gas conduits of watertube marine boilers. Trudy MIIT no.139:206-209 '61. (MIRA 16:4)

1. Novosibirskiy institut inzhenerov vodnogo transporta.
(Steam boilers, Marine) (Thermodynamics)

LEBEDEV, O.N., kand. tekhn. nauk

Efficiency of baffles for small fuel-bed stokers and their
effect on convection. Trudy NIIVTa no.10:105-109 '62.
(MIRA 16:6)

(Stokers, Mechanical)
(Heat—Convection)

LAKHANIN, V.V. prof., doktor tekhn.nauk; ZAKHAROV, Yu.V., dotsent, kand.tekhn.
nauk; LEBEDEV, O.N., dotsent, kand.tekhn.nauk

Problems in the design of atomic surface tankers. Trudy NIIVTa no.12:
5-21 '62. (MIRA 16:3)

(Atomic ships)

(Tank vessels)

LAKHANIN, Vladimir Vladimirovich; ZAKHAROV, Yuriy Vasil'yevich;
LEBEDEV, Oleg Nikolayevich; FEDOROV, G.N., retsenzent;
MIGICHEV, B.S., red.; SHLENNIKOVA, Z.V., red.

[Use of atomic energy in water transport] Ispol'zovanie
atomnoi energii na vodnom transporte. Moskva, Transport,
1965. 187 p. (MIRA 18:4)

ACC NR: AP7000365

SOURCE CODE: UR/0413/66/000/022/0140/0140

INVENTOR: Mashnikov, Yu. I.; Lebedev, O. N.; Treskov, V. V.; Rozenberg, M. M.;
Bakulin, A. I.; Boyko, I. I.; Krupenya, B. I.

ORG: None

TITLE: A mechanism for forced impact destruction of a diaphragm. Class 47, No.
188810

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 22, 1966, 140

TOPIC TAGS: pneumatic device, gas pressure

ABSTRACT: This Author's Certificate introduces a mechanism for forced impact destruction of a diaphragm. The unit consists of a striker and a ball catch which holds the striker in the cocked position. The kinetic energy of the striker is increased by rigid connection to a piston which uses gas pressure to move the striker after the ball catch is released.

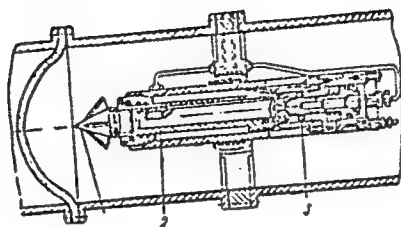
Card 1/2

UDC: 621.646.824:621.646.38

0920

2680

ACC NR: AP7000365



1—striker; 2—piston; 3—ball catch

SUB CODE: 13/ SUBM DATE: 01Feb65

Card 2/2

LEBEDEV, O.P.

Possibility of an increase in the mineralization of underground
waters at greater depth. Sbor. nauch. trud. NIGRI no.7:87-94
'60. (MIRA 14:12)

(Water, Underground)

LEBEDEV, O. P.

5/137/61/000/012/082/149
A006/A101

AUTHORS:

Vasichov, B. N., Latyshev, V. K., Pliskin, Yu. S., Felinger, A. K.,
Iyubchenko, A. A., Farfel', Yu. A., Lebedev, O. P., Ivanov, V. I.

TITLE:

A device to measure the thickness of hot rolled metal

PERIODICAL:

Referativnyy zhurnal, Metallurgiya, no. 12, 1961, 13-14, abstract
12D92 (V sb. "Radionkt. izotopy i yadern. izlucheniya v nar. kh-ve
SSSR, vol. 3" Moscow, Gostoptekhzdat, 1961, 205, 206)

TEXT:

An instrument for measuring the thickness developed at TshIICHM,
is based on the method of dynamic compensation. The device consists of a receiv-
ing unit, a container of the measuring source, an electric driven clamp, a feed
unit, a recording and an indicating unit. To control the operation of the device
a coarse-wedge sector is mounted. The device is employed in a thickness range
from 14 to 44 mm; it can however be designed for any range within 5 to 50 mm.
In the case of the given model the device is an indicating one. It is intended
to be incorporated into the programming unit, controlling the clamping screws of
the mill, as a correcting device on periodic-rolling mills, and as an indicator
in an automated reduction control system on continuous mills. The accuracy

Card 1/2

A device to measure the thickness ...

3
3/137/61/000/012/082/149
1906/A101

of the device is ± 0.1 mm on the whole range; the operational speed is one measurement per second.

N. Yulina ✓

[Abstractor's note: Complete description]

Card 2/2

LEBEDEV, O.P.; FRANTSUZOVA, T.A.; KUDELIN, V.N.

Determination of magnetite in iron cherts. Zav. lab. 31 no.9:1069-1070
'65. (MIRA 18:10)

1. Krivorozhskiy nauchno-issledovatel'skiy gornorudnyy institut i
Severnny gornobogatitel'nyy kombinat.

LEBEDEV, O.T.

Stabilized transformer output of the electronic stimulator for
cytophysiological investigations. TSitologiya 7 no.2:273 Mr-Ap
'65. (MIRA 18:7)

1. Laboratoriya sravnitel'noy fiziologii tsentral'noy nervnoy
sistemy Instituta evolyutsionnoy fiziologii i biokhimii AN SSSR,
Leningrad.

GRIGOR'YAN, R.A.; LEBEDEV, O.T.; KHRAPTSOVA, K.N.

Two-channel electronic stimulator for physiological research.
Biofizika 7 no.6:727-730 '62. (MIRA 17:1)

1. Institut evolyutsionnoy fiziologii im. I.M. Sechenova
AN SSSR, Leningrad.

L 23162-66

ACC NR: AP5015947

SOURCE CODE: UR/0247/65/015/003/0567/0572

AUTHOR: Amrom, S. D.; Lebedev, O. T.; Vikhoreva, K. N.

ORG: Institute of Evolutionary Physiology and Biochemistry imeni I. M. Sechenova, Academy of Sciences, SSSR (Institut evolyutsionnoy fiziologii i biokhimii Akademii nauk SSSR)

TITLE: Device for the investigation of higher nervous activity in man by the conditioned level method

SOURCE: Zhurnal vysshey nervnoy deyatel'nosti, v. 15, no. 3, 1965, 567-572

TOPIC TAGS: nervous system, reflex activity, conditioned reflex; medical equipment

ABSTRACT: The conditioned level method proposed for studying higher nervous activity consists of having the subject press a button up to an assigned point on the scale of a reflexometer; his sense of sight, hearing or touch may be used. The subject is then required to repeat the same action "blindly". A special apparatus was constructed for the study of this method. When the apparatus is turned on the first timer measures the time of latent stimulation. Simultaneously, a stimulus

UDC: 612.833.81 + 612.821.1

Card 1/2

L 23162-66
ACC NR: AP5015947

(sound, light, etc.) is generated. As soon as the subject presses the button on his control board the first timer is stopped and the second is activated. When the stimulus is stopped by the subject, a starting impulse is produced which stops the second timer and switches on the third. This timing device, measuring the time of latent retardation, continues to count the time until the operation stops. If the "blind" action of the subject fails to reach the given level, the third device is not switched on and the second timer operates until the operation stops. There are four stimulators in the apparatus which may emit stimuli at (1) the beginning of the latent stimulation, (2) the end of the latent stimulation, (3) the end of the reaction, i. e., at the beginning of latent retardation, (4) the end of latent stimulation. The order of stimuli may be varied, for example, to 1-4, 2-3, 3-4, etc. The exact deviation from the conditioned level of the "blind" action of the subject is measured by the deflection of rays on the screen of an oscillograph. Block diagrams of the test apparatus are presented. Orig. art. has: 4 figures.

SUB CODE: 06/

SUBM DATE: 23Mar64/

ORIG REF: 006/

OTH REF: 000

Card 2/2 ULR

L 27646-66

ACC NR: AP6018518

SOURCE CODE: UR/0239/65/051/007/0895/0896

AUTHOR: Lebedev, O. T; Vikhoreva, K. N.

ORG: Institute of Evolutionary Physiology, im. I. M. Sechenov, Leningrad, AN SSSR
(Institut evolyutsionnoy fiziologii AN SSSR)

TITLE: Instrument for synchronous switching on of a stimulant and of control and measuring devices

SOURCE: Fiziologicheskiy zhurnal SSSR, v. 51, no.7, 1965, 895-896

TOPIC TAGS: electronic circuit, conditioned reflex, electric relay, electronic equipment

ABSTRACT: An electronic circuit has been designed by means of which the stimulant and a number of control and measuring devices are switched on simultaneously in experiments in which the dynamic characteristics of analysors (visual, auditory, etc.) are studied. Application of the circuit proposed eliminates the shortcomings connected with the use of electro-mechanical relays. The arrangement in question is suitable for the study of conditioned reflexes. Orig. art. has: 1 figure. [JPRS]

SUB CODE: 06,09/ SUBM DATE: 18Feb64/ ORIG REF: 001/ OTH REF: 001

Card 1/1

UDC: 612.84.08

L 27607-66 EWT(1)/EWT(m)/T JK

ACC NR: AP6018419

SOURCE CODE: UR/0020/66/166/002/0469/0471

AUTHOR: Maksimovich, N. A.; Lebedeva, O. P. 32
B

ORG: Institute of Infectious Diseases, Ministry of Health, UkrSSR (Institut infektsionnykh bolezney Ministerstva zdravookhraneniya UkrSSR)

TITLE: Pathological morphological peculiarities of influenza infection in irradiated and immunized mice treated with bone marrow 79

SOURCE: AN SSSR. Doklady, v. 166, no. 2, 1966, 469-471

TOPIC TAGS: bone marrow, mouse, pathology, radiation biologic effect, immunization

ABSTRACT: In previous experiments the authors studied the effect of radiation on mice treated with bone marrow and immunized against influenza, and the effect of bone marrow injection on morphological manifestations of experimental influenza in irradiated mice. In the present experiment they attempted to reduce the high mortality from influenza by immunizing the animals against influenza immediately after radiation exposure and 13 days afterward. The experiment was conducted on 200 mice in 2 groups: one vaccinated once (2 hours after irradiation), and the other twice (after 2 hours and after 13 days). Immunization was done intra-abdominally. Bone marrow was injected intravenously (either 10 or 80 cells) one hour after radiation exposure. The surviving 94 mice were then given a suspension of strain PR 8 of influenza virus A intra-nasally in a dilution of 10^{-6} , in a volume of 0.5 ml at a titer of RGA 1:1,280, 2

Card 1/2

UDC: 577.391

L 27607-66

ACC NR: AP6018419

DL₅₀10⁻⁶. In the first 14 days after infection most of the irradiated mice treated with bone marrow died (regardless of the number of bone marrow cells injected. The control groups (vaccinated against influenza once or twice) also had a considerable mortality, showing the ineffectiveness of the vaccination against subsequent massive infection. Previous findings were confirmed that bone marrow injections normalize the reaction of pulmonary cells in irradiated animals, bringing it closer to that of animals not exposed to radiation. Neither the number of vaccinations for the number of bone marrow cells affected the character of pulmonary changes. A description, with photographs, is given of changes in pulmonary cells in the various groups. This paper was presented by Academician A. V. Palladin on 11 May 1965. Orig. art. has: 5 figures and 1 table. [JPRS]

SUB CODE: 06 / SUBM DATE: 03May65 / ORIG REF: 006 / OTH REF: 002

Card 2/2 CC

LEVINA, R. Ya.; MEZENTSOVA, N. N.; LEBEDEV, O. V.

Synthesis of hydrocarbons. Part 49. Spiro-(2,4)-heptadiene-1,3 and
spiro-(2,4)-heptane. Zhur.ob.khim.25 no.6:1097-1100 Je'55.
(MLRA 8:12)

1. Moskovskiy Gosudarstvennyy universitet
(Heptadiene) (Heptane) (Spiro compounds)

AUTHORS: Novikov, S. S., Khmel'nitskiy, L. I., SOV/79-28-8-64/66
Lebedev, O. V.

TITLE: Decomposition Reactions of N_2O_4 With Organic Compounds
(Vzaimodeystviye N_2O_4 s organicheskimi soyedineniyami) I.
Investigation of the Conditions for the Reaction of N_2O_4
With Benzaldoxime; Combination of the Products and the
Reaction Equation (Izucheniyе usloviy reaktsii N_2O_4 s
benzal'doksimom, sostav produktov i uravneniye reaktsii)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol.28, Nr 8,
pp. 2296 - 2302 (USSR)

ABSTRACT: Investigated were the influence of the molar ratio,
the concentration, the method of mixing the reagents, and
the nature of the solvent upon the course of the reaction
between N_2O_4 and benzaldoxime under cooling with ice.
In considering all these factors the highest phenyldinitro-
methane yield obtained was 43% of the theoretical yield.
All the combinations of the products of the reaction between
 N_2O_4 and benzaldoxime which form under various conditions
were determined qualitatively and quantitatively. It was

Card 1/3

Decomposition Reactions of N_2O_4 With Organic Compounds. SOV/79-28-8-64/66
 I. Investigation of the Conditions for the Reaction of N_2O_4 With Benzal-
 doxime; Combination of the Products and the Reaction Equation

found that nitrogen is produced in this reaction. Equations were proposed which indicate the formation of phenyldinitromethane and benzaldehyde by the reaction of N_2O_4 with the sodium salt of benzaldoxime. The experimental results are given in table 1, and the following conclusions can be drawn from them: with about a 1:1 ratio of N_2O_4

to benzaldehyde in the solvent only phenyldinitromethane and benzaldehyde are formed; with a 0,5:1 ratio of these reagents in the solvent the main product is 3,4-diphenyl furoxan (46%), while lesser amounts of phenyldinitromethane (4%) and benzaldehyde (9%) also form. By carrying out the reaction without solvent the aldehyde is formed almost quantitatively (93%). Figures 1 and 2 indicate the dependence of the yield of phenyldinitromethane upon the factors indicated here. There are 3 figures, 2 tables, and 11 references, 3 of which are Soviet.

Card 2/3

Decomposition Reactions of N_2O_4 With Organic Compounds. SOV/79-28-8-64/66
I. Investigation of the Conditions for the Reaction of N_2O_4 With Benzal-
doxime; Combination of the Products and the Reaction Equation

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR (Institute
of Organic Chemistry, AS USSR)

SUBMITTED: December 31, 1957

Card 3/3

AUTHORS: Khmel'nitskiy, L. I., Novikov, S. S., SOV/79-28-8-65/66
Lebedev, O. V.

TITLE: The Decomposition Reactions of Nitrogen Dioxide With Organic
Compounds (Vzaimodeystviye N_2O_4 s organicheskimi soyedineniyami)
II. The Reaction of N_2O_4 With Aci-Phenylnitromethane and Its
Salts (II. Reaktsiya N_2O_4 s atsi-fenilnitrometanom i yego sol'yu)

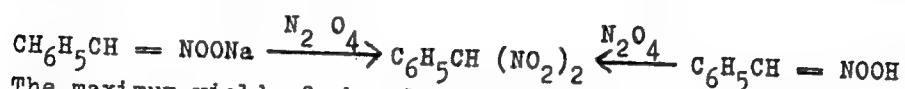
PERIODICAL: Zhurnal obshchey khimii, 1958, Vol. 28, Nr 8,
pp. 2303 - 2304 (USSR)

ABSTRACT: In the course of investigations on the decomposition reaction
between nitrogen dioxide and benzaldoxime and its salts,
which leads to the formation of phenyldinitromethane, the
authors found it necessary to study more closely the reaction
between N_2O_4 and aci-phenylnitromethane and its salts. In the
literature⁴ the statement is made without further data that
"the aci form of phenylnitromethane enters into reaction
especially easily with nitrogen dioxide" (Ref 1). The ex-
periments of the authors showed that, analogous to other
aliphatic-aromatic compounds (Ref 1), the reaction of N_2O_4

Card 1/3

The Decomposition Reactions of Nitrogen Dioxide With SOV/79-28-8-65/66
Organic Compounds. II. The Reaction of N_2O_4 With Aci-Phenylnitromethane
and Its Salts

with aci-phenylnitromethane and its salt produces the expected phenyldinitromethane:



The maximum yield of phenyldinitromethane was 44,5% based on the aci-phenylnitromethane, and 28% based on the salt. The reaction went in solution, and although it resembled externally the reaction between nitrogen dioxide and benzal-doxime and its salts, it required much less heating than this reaction. The results and the conditions of the experiment with aci-phenylnitromethane are indicated in table 1, while those for the sodium salt of phenylnitromethane are given in table 2. There are 2 tables and 2 references, which are Soviet.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR (Institute
of Organic Chemistry, AS USSR)

Card 2/3

The Decomposition Reactions of Nitrogen Dioxide With SOV/79-28-8-65/66
Organic Compounds. II. The Reaction of N_2O_4 With Aci-Phenylnitromethane
and Its Salts

SUBMITTED: December 31, 1957

Card 3/3

SOV/79-28-8-66/66

AUTHORS: Novikov, S. S., Lebedev, O. V.,
Khmelnitskiy, L. I., Yegorov, Yu. P.

TITLE: Decomposition Reactions of Nitrogen Dioxide and Organic
Compounds (Vzaimodeystviye N_2O_4 s organicheskimi soyedineniyami)
III. Decomposition Reaction of N_2O_4 With Salts of the
Aliphatic Nitro Compounds (III. Vzaimodeystviye N_2O_4 s
solyami alifaticheskikh nitrosoyedineniy)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol. 28, Nr 8,
pp. 2305 - 2307 (USSR)

ABSTRACT: In contrast to the reactions of the aromatic oximes and
the aryl nitromethane salts with N_2O_4 producing dinitro
compounds, the reaction of the aliphatic oximes with nitrogen
dioxide produces nitrosonitro compounds. Thus, for example,
acetoxin and N_2O react to form propylpseudonitrole (Ref 3)
 $(CH_3)_2C(NO)(NO_2)$. Analogous to the course of the reaction
between the oximes and the nitro compounds of the aromatic
series, it is to be expected that the aliphatic series would
react in the same way, i.e. that the salts of the aliphatic
nitro compounds must react with N_2O_4 to give nitrosonitro

Card 1/3

Decomposition Reactions of Nitrogen Dioxide and Organic SOV/79-28-8-66/66
Compounds. III. Decomposition Reaction of N_2O_4 With Salts of the Aliphatic
Nitro Compounds

compounds. In the work reported in this paper this hypothesis was tested using the alkali salts of the following compounds: 2-nitropropane; ethylnitroacetate; and 1,1-dinitroethane. Thus propylpseudonitrile was obtained by the reaction between the sodium salt of 2-nitropropane and N_2O_4 (reaction diagram 4). In the reaction of the sodium salt of nitroacetate with N_2O_4 , the ethyl ester of nitrooximeacetic acid was formed (Diagram 2). In the reaction between the potassium salt of 1,1-dinitroethane and N_2O_4 , ethylnitrolic acid was produced; in this reaction a labile intermediate product, a nitroso compound, formed (Diagram 3). Contrary to expectation, only the nitromalonic acid ester separated out quantitatively in the reaction between N_2O_4 and the potassium salt of nitromalonic acid ester. Spectral analysis showed that this anomaly resulted from the fact that the potassium formed the salt not at the nitro group, but at the carbonyl group. There are 4 references, 1 of which is Soviet.

Card 2/3

Decomposition Reactions of Nitrogen Dioxide and Organic SOV/79-28-8-66/66
Compounds. III. Decomposition Reaction of N_2O_4 With Salts of the Aliphatic
Nitro Compounds

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR (Institute
of Organic Chemistry, AS USSR)

SUBMITTED: December 31, 1957

Card 3/3

84853

S/062/60/000/010/006/018
B015/B064

111360

AUTHORS: Novikov, S. S., Khmel'nitskiy, L. I., and Lebedev, O. V.

TITLE: Reaction of N_2O_4 With Organic Compounds. Information 4.
Conversion of the Nitromethyl Group Into the Trinitromethyl Group

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, No. 10, pp. 1783-1786

TEXT: The authors showed by experiments that a reaction of m-nitro-benzonitrolic acid with an N_2O_4 excess (in dichloro ethane at $50-60^\circ C$) yields m-nitrophenyl trinitromethane (86% yield). Herefrom it is concluded that aryl nitrolic acids are formed as intermediate products in the formation of aryl trinitromethanes from salts of aryl nitromethanes under the action of N_2O_4 . On this basis it was possible to establish reaction conditions that permit an essential increase in the yield of aryl trinitromethanes obtained from aryl nitromethane salts. The method is based on the addition of N_2O_4 in two portions: The first portion

Card 1/3

84853

Reaction of N_2O_4 With Organic Compounds.
Information 4. Conversion of the
Nitromethyl Group Into the Trinitromethyl
Group

S/062/60/000/010/006/018
B015/B064

is added under conditions warranting a maximum yield of nitrolic acid, and the second portion is added under the optimum conditions for the conversion of nitrolic acid to aryl trinitromethane. Thus, a 58-60% yield of m-nitrophenyl trinitromethane could be attained, and the p-nitrophenyl trinitromethane hitherto not described could be obtained. The latter can be converted, under the action of an alcoholic leaching solution, into p-nitrophenyl dinitromethane which has hitherto been unknown. The conversion of the nitromethyl group into the trinitromethyl group can also be assumed to take place under the formation of the dinitromethyl group (intermediate stage). In the present investigation, also the salt of m-nitrophenyl dinitromethane was found to give derivatives of trinitromethyl. A formation of the aci-form of aryl dinitromethane as an intermediate stage in the formation reaction of the trinitromethyl derivative from the nitromethyl derivative could not be established, while in the normal form the aryl dinitromethanes do not react with N_2O_4 . The individual methods of synthesis are described.

Card 2/3

Reaction of N_2O_4 With Organic Compounds.
Information 4. Conversion of the
Nitromethyl Group Into the Trinitromethyl
Group

84853

S/062/60/000/010/006/018
B015/B064

There are 9 references: 3 Soviet, 2 Italian, 2 US, 1 German, and 1 British.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii
nauk SSSR (Institute of Organic Chemistry imeni N. D.
Zelinskiy of the Academy of Sciences USSR)

SUBMITTED: May 27, 1959

✓

Card 3/3

S/062/60/000/011/009/016
B013/B078

AUTHORS: Khmel'nitskiy, L. I., Novikov, S. S., Lebedev, O. V.

TITLE: Reaction of N_2O_4 With Organic Compounds. 5. Aryl Nitrolic Acids, Preparation of Aryl Nitro Methanes From Them, Single-stage Synthesis of Aryl Nitro Methanes From Aryl Aldoximes

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, No. 11, pp. 2019 - 2025

TEXT: The investigation of aryl nitrolic acids as well as of the methods of preparation of aryl nitro methanes is continued in this paper. A new method of preparation of aryl nitrolic acids through the action of N_2O_4 on aryl nitro methane salts has been found. It was shown that aryl nitrolic acids may exist in two types which differ according to their physical and some chemical properties. The formation of one or the other type as well as both types simultaneously depends on the method of preparation. These phenomena were thoroughly investigated in the case of p-nitro

Card 1/4

Reaction of N_2O_4 With Organic Compounds.

5. Aryl Nitrolic Acids, Preparation of Aryl Nitro Methanes From Them, Single-stage Synthesis of Aryl Nitro Methanes From Aryl Aldoximes

S/062/60/000/011/003/016
B013/B078

benznitrolic acid. Type (I) is a pale-yellow substance with a melting point at $60^{\circ}-61^{\circ}C$ (under decomposition). It is easily soluble in alkalis and alkali carbonate solutions. (I) forms, when acidifying a solution of p-nitrophenyl nitro methane potassium salt and -nitrate with oxalic acid. Type (II) is an almost colorless crystalline substance with a melting point at $52^{\circ}-53^{\circ}C$. In alkalis or alkali carbonate solutions it is immediately converted into a high meltable product without passing into solution. It forms under the action of N_2O_4 upon a suspension of p-nitrophenyl nitro methane potassium salt in ether. By the action of $0.5 M N_2O_4$ upon the ether solution of p-nitro benzaldoxime there forms an almost inseparable mixture from both forms. When applying the first mentioned two methods, m-nitro. benznitrolic acid will only be obtained in type (I). From the oxime it will be separated like p-chloro benz-nitrolic acid as a mixture of both forms. With a repeated recrystallization of the mixture of (I) and (II) of p-chloro benznitrolic acid one

Card 2/4

Reaction of N_2O_4 With Organic Compounds.

S/062/60/000/011/009/016
B013/B078

5. Aryl Nitrolic Acids, Preparation of Aryl
Nitro Methanes From Them, Single-stage Synthesis of Aryl
Nitro Methanes From Aryl Aldoximes

obtains type (II) with a melting point at 78° - 79° C. Type (I) was obtained by acidification of the alkaline mixture solution after this had been filtered off from the decomposition products of (II). o-nitro benzal-doxime with N_2O_4 gives rise to type (I) only. The existence of two types of aryl nitrolic acids can be explained by syn-anti-isomerism. Melting points of the obtained aryl nitrolic acids and their benzoyl derivatives are mentioned in the table. The conversion of nitrolic acid into aryl nitro methane in the presence of N_2O_4 was investigated with p-chloro-, o-nitro-, and p-nitro benznitrolic acids. p-chloro- and p-nitro benz-nitrolic acids (I and II) with N_2O_4 give rise to respective aryl nitro methanes in good yields. o-nitrophenyl trinitro methane could not be obtained by the action of N_2O_4 upon o-nitro benznitrolic acid. Based on findings, the method of a single-stage synthesis of aryl nitro methanes from aryl aldoximes was developed. It consists in adding N_2O_4 twice.

Card 3/4

Reaction of N_2O_4 With Organic Compounds.

S/062/60/000/011/009/C16
B013/B078

5. Aryl Nitrolic Acids, Preparation of Aryl
Nitro Methanes From Them, Single-stage Synthesis of Aryl
Nitro Methanes From Aryl Aldoximes

The first portion is added under the condition that it guarantees the maximum yield of nitrolic acid. The addition of the second portion takes place under the optimum conditions for the conversion of nitrolic acid into aryl nitro methane. There are 1 table and 6 references: 3 Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo
Akademii nauk SSSR (Institute of Organic Chemistry imeni
N. D. Zelinskiy of the Academy of Sciences USSR)

SUBMITTED: May 27, 1959

Card 4/4

KHMEL'NITSKIY, L.I.; LEBEDEV, O.V.; SLOVETSKIY, V.I.; NOVIKOV, S.S.

Reactions of N_2O_4 with organic compounds. Report No. 7: Syn-anti isomerism of aryl nitrolic acids. Izv.AN SSSR Otd.khim.nauk no.4: 678-683 Ap '61.
(MIRA 14:4)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Nitrogen oxide) (Nitrolic acid)

KHMEI'NITSKIY, L.I.; NOVIKOV, S.S.; LEBEDEV, OV.

Interaction between N_2O_4 and organic compounds. Report No.6:
Arylnitronitrosomethanes and mechanism of the reaction between
 N_2O_4 and aromatic compounds containing an acinitro or isonitroso
group in the side chain. Izv.AN SSSR Otd.khim.nauk no.3:477-482
Mr '61. (MIRA 14:4)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo AN SSSR.
(Methane) (Nitrogen oxide)

ACC NR: AP6030569

SOURCE CODE: UR/0413/66/000/016/0035/0036

INVENTOR: Lebedev, O. V.; Yepishina, L. V.; Sevost'yanova, V. V.; Novikova, T. S.; Khmel'nitskiy, L. I.; Novikov, S. S.

ORG: none

TITLE: Preparation of 2-nitro derivatives of imidazole. Class 12, No. 184868
[announced by Institute of Organic Chemistry im. N. D. Zelinskiy (Institut organicheskoy khimii)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 16, 1966, 35-36

TOPIC TAGS: imidazole nitro derivative, methylformylimidazole oxime, nitrogen tetroxide, imide, organic nitro compound, organic oxime

ABSTRACT: In the proposed method, 2-nitro derivatives of imidazole are prepared by treatment of 4-methyl-5-formylimidazole oxime with nitrogen tetroxide at 2-3°C in absolute acetonitrile with further heating at 70°C and isolation of the product by known methods.

[WA-50; CBE No. 11]

SUB CODE: 07/ SUBM DATE: 24Mar65/

Card 1/1

UDC: 547.781.5.07

86740

9.2520 (1154 ONLY)

9.4141

9.4140

S/120/60/000/006/015/045
E041/E335

AUTHORS: Bezmenov, O.M., Lebedev, O.V. and Shamov, V.P.

TITLE: Wide-band Transistor Preamplifier

PERIODICAL: Pribery i tekhnika eksperimenta, 1960, No. 6,
pp. 56 - 57

TEXT: The circuit of Fig. 1 is to match the high output resistance of the photomultiplier of a scintillation gamma-ray spectrometer with the low characteristic impedance of a coaxial cable. The great attraction of the transistor circuit is its freedom from microphony. The two transistors Π_3

and Π_4 form an emitter follower analogous to the White circuit, well known for tubes. The base current of the lower transistor, whose high AC resistance constitutes the emitter load of the upper transistor, is stabilized by the silicon stabilistor Π_5 . The transistors are alloy-diffusion

types Π -402 (P-402) or Π -403 (P-403). The load on the amplifier is a 150 ohm resistor connected by 20 m of coaxial

Card 1/4

86740

S/120/60/000/006/015/045
E041/E335

Wide-band Transistor Preamplifier

cable. The overall gain, including the cable, is 0.92. The input resistance of the amplifier is 250 k Ω in parallel with 16 pF. The output resistance of the amplifier is 8.6 Ω . The circuit will handle without distortion pulses between +0.4 and -3.5 V, at temperatures up to +70 °C. The rise time does not exceed 2×10^{-8} sec with a very small overshoot. Fig. 3 shows the effect on the rise time of the output signal ($\tau_{\phi} \cdot 10^{-8}$ μ s) on the capacitance (C_H , μ F) connected in parallel with the load resistor (150 ohm); the rise time of the input signal is 3.8×10^{-8} sec. To obtain the best results the transistors are carefully selected. Π_1 and Π_2 should have high β , Π_3 can have an average β while Π_4 is not critical. The diode Δ -810 (D-810) can be changed

Card 2/4

86740

S/120/60/000/006/015/045

E041/E335

Wideband Transistor Preamplifier

if R_6 and R_7 are modified to give a through-current of 1.5 - 2.0 mA. The operation is proof against supply fluctuations of $\pm 10\%$. A.N. Pisarevskiy is thanked for valuable comments. There are 3 figures and 4 references: 1 Soviet and 3 English.

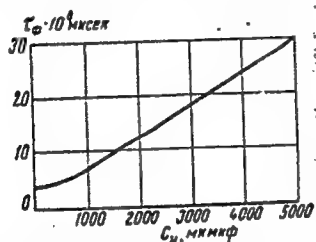


Рис. 3. Зависимость времени нарастания выходного сигнала от величины емкости, присоединенной параллельно нагрузке 150 ом. Время нарастания сигнала на входе $3.8 \cdot 10^{-4}$ сек

Card 3/4

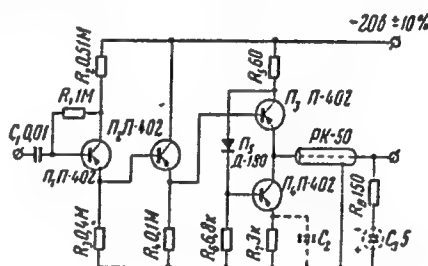


Рис. 1. Схема предусилителя

86740

S/120/60/000/006/015/045
E041/E335

Wide-band Transistor Preamplifiers

ASSOCIATION: Institut radiatsionnoy gigiyeny
(Institute of Radiation Hygiene)

SUBMITTED: November 9, 1959

Card 4/4

S/194/61/000/001/011/038
D216/D304

AUTHORS:

Lebedev, O.V. and Shamov, V.P.

TITLE:

Portable counter using decatron tubes

PERIODICAL:

Referativnyy zhurnal. Avtomatika i radioelektronika,
no. 1, 1961, 1, abstract I E3 (Gigiyena i sanitariya,
no. 7, 1960, 63-64)

TEXT: A counter using decatrons has been designed for working with nuclear radiation counters. The memory storage capacity is $10^6 - 1$ pulses and the computing speed is 3×10^6 pulses per min. There is an intensimeter and a regulated 0 - 1.6 kV EHT supply for the counters. The total supply power is 35 W and the dimensions are 320 x 195 x 135 mm³.

Card 1/1

21.6000

33142

S/120/61/000/006/008/041
E039/E485

AUTHORS: Lebedev, O.V., Timofeyev, V.V.

TITLE: A universal counting apparatus

PERIODICAL: Pribery i tekhnika eksperimenta, no.6, 1961, 57-59

TEXT: Scalers such as the S-1 (B-1), S-2 (B-2) and PC-10000 (PS-10000) have big disadvantages (large size and weight, low rates of counting etc). The authors have designed a portable scaler which is free from these drawbacks and has a much wider operating range. Some of the more interesting features are as follows. The power supply contains three rectifiers and the anode volts are stabilized by three CP-1 (SG-1P) stabilizers at 450 V. A triode transistor circuit is used instead of a choke for smoothing the rectified voltage. Four overlapping ranges of H.T. volts are provided: 0 - 450, 380 - 830, 760 - 1200 and 1140 - 1600, which enables any type of gas-discharge or scintillation counter to be connected to the pre-amplifier. Six decatrons are used in a normal circuit giving a scaling factor of 10^6 , hence an electromechanical counter is not normally required. 1.2×10^6 pulses/min can be recorded. A ratemeter is included in the circuit giving ten ranges of counting speeds: 200, 500, 1000, 2000, Card 1/2

A universal counting apparatus

33112

S/120/61/000/006/008/041
E039/E485

5000, 10^4 , 2×10^4 , 5×10^4 , 10^5 , 2×10^5 pulses/min. The short integration time of this ratemeter accelerates the process of measuring samples. There is an internal pulse generator for testing, which has four ranges: 3, 50 (synchronized to the mains), 250 and 10^4 cycles/sec. Both these pulses and the pulses from the counter produce a visual indication on a thyatron on the front panel, facilitating the detection of faulty operation. The voltage stabilization is such that a supplementary mains voltage stabilizer is not required. The power input is 40 watts. The dimensions are $375 \times 235 \times 160 \text{ mm}^3$ and the weight is 7 Kg. There are 1 figure and 2 Soviet-bloc references.

ASSOCIATION: Nauchno-issledovatel'skiy institut radiatsionnoy gigiyeny (Scientific Research Institute of Radiation Hygiene)

SUBMITTED: November 19, 1960

Card 2/2

GUTKEVICH, S.G.; LEBEDEV, O.V.; SEL'YANINOVA, N.S.

Easy gluing of NaJ(Tl) single crystals. Prib. i tekhn. eksp. 6
no.1:198-199 Ja-F '61. (MIRA 14:9)

1. Institut radiatsionnoy gigiyeny.
(Gluing)

LEBEDEV, O.V.; CHERKESOV, A.A.

Transistor stabilizers of regulated low voltage. Prib. i tekhn.
eksp. 6 no.4:153-154 JL-Ag '61. (MIRA 14:9)

1. Nauchno-issledovatel'skiy institut radiatsionnoy gigiyeny.
(Voltage regulators)

LEBEDEV, O.V.; TIMOFEYEV, V.V.

Universal counter unit. Prib. i tekhn. eksp. 6 no. 6:57-59
N-D '61. (MIRA 14:11)

1. Nauchno-issledovatel'skiy institut radiatsionnoy gigiyeny.
(Nuclear counters)

L 6860-65 EWT(m)/EPF(c)/EPR/EMP(j)/T/EMP(q)/EMP(b) Pc-L/Pr-L/Ps-L LJP(c)/
AFWL/ESD(t)/RAEM(t) RM/WJ/JD
ACCESSION NR: AR4044269

S/0272/64/000/006/0160/0161 70

SOURCE: Ref. zh. Metrologiya i izmeritel'naya tekhnika. Otdel'nyy vy*pusk,
Abs. 6.32.1133

AUTHOR: Gutkevich, S. G.; Lebedev, O. V.; Pisarevskiy, A. N.; Selyaninova,
N. S.; Shamov, V. P.

TITLE: New methods for the packing of scintillators 19

CITED SOURCE: Sb. Stsintillyatory* i stsintillyats. materialy*. Khar'kov,
Khar'kovsk. un-t, 1963, 236-238

TOPIC TAGS: scintillator, single crystal, stilbene, tolane/OK-50 glue

TRANSLATION: There is described a method of packing of single crystals with
the help of glue OK-50. The method ensures transparent, colorless, and very
durable gluing of scintillators NaI(Tl), CsI(Tl), KI(Tl), stilbene, tolane, and
plastic crystals with glass, improves their resolving power, and makes it

Card 1/2

L 6860-65

ACCESSION NR: AR4044269

possible to prepare very thin films of scintillators and to use for packing thin-walled containers which cannot be taken apart. The method is recommended for introduction into industrial production.

SUB CODE: OP, SS

ENCL: 00

Card 2/2

RAMZAYEV, P.V.; SHAMOV, V.P.; TROITSKAYA, M.M.; LEBEDEV, O.V.; IBATULLIN, M.S.

Indirect determination of the content of Cs¹³⁷ in the human body.
Med. rad. 10 no.6:22-28 Je '65. (MIRA 18:6)

1. Leningradskiy nauchno-issledovatel'skiy institut radiatsionnoy
gigiyeny Ministerstva zdoravookhraneniya RSFSR.

L 9495-66 EWT(1)/EWA(h)

ACC NR: AP5028466

SOURCE CODE: UR/0286/65/000/020/0037/0037

INVENTOR: Lebedev, O. V.

ORG: none

TITLE: Two-output contactless pulse relay. Class 21, No. 175555

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 20, 1965, 37

TOPIC TAGS: pulse relay, contactless relay, logical element

ABSTRACT: This Author Certificate introduces a dual-output contactless pulse relay (see Fig. 1) which contains a logical block for comparing the phases of two electrical signals, a phase shifting block, pulse shapers, and an output block. To improve both its reliability and its noiseproof feature, peak transformers are used as pulse shapers. The output windings of the transformers are connected to the windings of ferrodiode elements of the logical block. Orig. art. has: 1 figure.

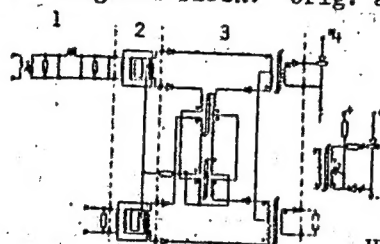


Fig. 1. Two-output contactless pulse relay

1 - Shaper and phase shifter; 2 - pulse shaper; 3 - logical block; 4 - output block.

[JR]

Card 1/1

UDC: 621.318.5.066.63